

APPENDIX B
PRELIMINARY HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN FOR SITE VISITS

SITE: Occidental Chemical Corporation PROJECT NO: WA 488 914.59

Location: Niagara Falls, New York Region: EPA Region II

EPA Contact: Andrew Bellina Phone No.: (212) 264-0537

Plan Prepared By: Don Peterson Date: May 29, 1986

Objective(s): Conduct Sampling for RCRA Site Investigation

Proposed Date of Investigation: August 1986

Background Review is: Complete: _____ Preliminary: X
State has additional site data.

Overall Hazard is: High: _____ Moderate: X
Low: _____ Unknown: _____

FACILITY DESCRIPTION: Occidental (previously Hooker) is a large chemical manufacturing plant, approximately 100 acres in size, located on the Niagara River.

Principal Operations: Manufacture of chlorine, sodium hydroxide, potassium hydroxide, halogenated organics, sulfur, and plastic compounds.

Unusual Features (containers, buildings, dikes, power lines, terrain, etc.):
Active plant with railroad cars and tractor trailer trucks.

History (worker or non-worker injury, complaints from public, previous agency action): In December 1979, the Department of Justice filed a civil action suit against Occidental for contamination of the city's water supply. A settlement agreement was approved that includes assessment, containment, and a remedial program. Contamination of ground water and soil has been documented. Recent sampling by U.S. EPA Dioxin Task Force detected dioxin contamination in D-, N-, and T-(U) areas.

REVIEW AND APPROVALS

Project Manager: Robert F. [Signature]

Date: 7-30-82

Versar Health Safety Manager [Signature]

Date: 7-30-82

HAZARDOUS/TOXIC MATERIAL

Known or suspected materials, contaminated media, storage container, etc.

Circle which wastes are present and estimate the amount of waste by category.

<u>SLUDGE</u>	<u>OIL</u>	<u>SOLVENT</u>	<u>CHEMICALS</u>	<u>SOLIDS</u>	<u>OTHER</u>
Amount	Amount N/A	Amount Unknown	Amount Unknown	Amount Unknown	Amount Unknown
Unit of Measure	Unit of Measure	Unit of Measure Tons	Unit of Measure Tons	Unit of Measure	Unit of Measure
Paint Pigments	Oily Wastes	Halogenated Solvents	Acids	Flyash	Laboratory Pharmaceut
Metals Sludges	Other (Specify):	Non-halogenated Solvents	Pickling Liquors	Asbestos	Hospital
POTW		Other (Specify):	Caustics	Milling/Mine Tailings	Radioactive
Aluminum		Toluene	Pesticides	Ferrous smelt-	Municipal (at EFW)
Other (Specify):		Chlorobenzene	Dyes/inks	Non-ferrous	Other (Specify):
Lindane		Dodecyl Mercaptans (Thiols)	Cyanide	Other (Specify):	
Filter Cake			Phenols	Aluminum Phosphorus	
			Halogens		
			PCB	Dioxin	
			Metals:		
			Lead, Heavy Metals, Other Metal Chlorides		
			Other (Specify):		
			Salts		

List known substances on the site (See attached Summary. Form of wastes and amounts largely unknown.)

1. Substance	2. Form	3. Toxicity	Amount*	Unit
	Solid Liquid Vapor	High Med. Low None		

WASTE TYPES: Liquid X Solid X Sludge X Gas

CHARACTERISTICS: Corrosive X Flammable X Radioactive

Toxic X Volatile X Reactive X Inert

Persistent X

HAZARD ASSESSMENT

Describe hazards taking into account toxic and pharmacologic effects, reactivity, stability, flammability, operational concerns, sampling, decontamination, etc.

Contact with contaminated soils or liquids may cause skin irritations. Media should be considered toxic by ingestion. PCB is suspected carcinogen; dioxin is known tertogen.

MONITORING PROCEDURES

Perimeter Establishment: Map/Sketch Attached X Site Secured?

Perimeter Identified Zones of Contamination Identified

Other release areas may be identified.

Personal Protection

Level of Protection Required: A B C X D

Modifications: Level C required during soil sampling activities. Other
monitoring may be done at Level D.

Level A should be selected when the highest level of respiratory, skin, eye, and mucous membrane protection is needed. The personal protection equipment required at Level A includes:

- Positive-pressure (pressure demand), self contained breathing apparatus (MSHA/NIOSH approved).
- Fully-encapsulating chemical resistant suit (OSHA response suit).
- Gloves, inner, chemical resistant.
- Boots, chemical resistant, steel toe and shank (depending on suit boot construction, worn over or under suit boot).
- Underwear, cotton, long-john type. (Optional)
- Socks, cotton.
- Coveralls, cotton (undersuits). (Optional)
- Hard hat (under suit). (Optional)
- Nonsparking tools.
- Explosion-proof lantern.
- Two-way radio communications (intrinsically safe).
- Personal radiation detectors.

Level B protection should be selected when the highest level of respiratory protection is needed, but a lesser level of skin and eye protection. Level B protection is the minimum level recommended on initial site entries until hazards have been further identified and defined by monitoring, sampling, and other reliable methods of analysis, and personnel equipment corresponding with those findings utilized. The personal protection equipment required at Level B includes:

- SCBA unit.
- Chemical resistant clothing (Neoprene splash suits or Saranex coveralls).
- Gloves, outer, chemical resistant.
- Gloves, inner, chemical resistant.
- Boots, outer, chemical resistant, steel toe and shank.
- Boots, outer, chemical resistant. (Optional)
- Two-way radio.
- Hard hat. (Optional)

Level C protection should be selected when the type of airborne contaminant is known, its concentration measured, criteria for using air purifying respirators met, and when skin and eye exposure is likely. Periodic air monitoring must be performed. The personal protection equipment required at Level C includes:

- Full-face, air-purifying respirator (MSHA/NIOSH approved).
- Chemical resistant clothing (splash suit, Saranex, Tyvek).
- Gloves, outer, chemical resistant (Viton); Gloves, inner (Latex).
- Boots, chemical resistant, steel toe and shank.
- Boots, outer, chemical resistant. (Optional)
- Cloth coveralls (inside chemical resistant clothing). (Optional)
- Two-way radio.
- Hard hat. (Optional)

Level D protection is designed for use when only skin and eye protection is needed and airborne contamination is unlikely. Personal equipment requirements for Level D include:

- Hard hat (face shield).
- Goggles or safety glasses.
- ~~Gloves~~, chemical resistant. (Optional)
- Work gloves.
- Coveralls, long sleeve.
- Ear protection. (Optional)
- Dust respirator. (Optional)

Surveillance equipment and materials needed to monitor the site for identity and concentration of contamination: HNu Photionization Analyzer, will be used
to monitor trace gases before entry into a waste management area. *During*

sample collection

m

also mercury

Medical surveillance procedures for evidence of personnel exposure: All monitoring personnel are on active semi-annual medical surveillance program.

DECONTAMINATION AND DISPOSAL

____ Level A - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, suit/safety hat removal, SCBA backpack removal, inner glove wash, inner glove removal, inner clothing removal, field wash, redress.

_____ Level B - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, suit/safety boot wash, suit/SCBA/boot/glove rinse (tank change), safety boot removal (splash suit removal) SCBA backpack removal, inner glove wash, inner glove rinse, facepiece removal, inner glove removal, inner clothing removal, field wash, redress.

 X Level C - Segregated equipment drop, boot cover and glove wash, boot cover and glove rinse, tape removal, boot cover removal, outer glove removal, suit/safety boot wash, suit/safety boot rinse (Canister or Mask Change), safety boot removal, splash suit removal, inner glove wash, inner glove rinse, facepiece removal, inner glove removal, inner clothing removal, field wash redress.

_____ Level D - Segregated equipment drop, boot and glove wash, boot and glove rinse.

_____ Level E - No formal decontamination required.

Decontamination Modification (personnel surfaces, materials, instruments, equipment, etc.): _____

Disposal Procedures (contaminated equipment, supplies, disposable washwater):
Contaminated clothing and equipment will be bagged and properly disposed of
either at the facility or at Versar.

EMERGENCY PROCEDURES

Overt Personnel Exposure:

Skin Contact: Wash with soap and water. Look for signs of skin irritation.

Inhalation: Leave area immediately. Contact facility officials and local public health official.

Ingestion: Secure sample if possible. Contact facility officials and local public health official. Seek medical attention.

Ionizing Radiation:

Normal background .01 to .02 mR/hr

If less than 2 mR/hr continue investigation with caution

If 2 to 10 mR/hr, map 2 mR/hr contour

If greater than 10 mR/hr evacuate site

Potential or Actual Fire or Explosion:

Call Fire Department; Phone: 911

Call Police; Phone: 716-278-8280

Personnel Injury: To be determined before on-site work.

Call Ambulance/Hospital; Phone:

Call Versar Office; Phone: 703-750-3000

EMERGENCY RESOURCES (To be determined before on-site work)

Ambulance _____
Hospital Emergency Room _____

Poison Control Center _____
Police _____
Fire Department _____
Airport _____
Explosive Ordinance Disposal Unit _____

EPA Contact _____
State Contact _____
Site Water Supply _____
Site Telephone _____
Site Radio _____
Site Other _____

EMERGENCY CONTACTS: 703-750-3000

Versar Inc.: Ken Crumrine _____
John Richards _____
Eric Juergens _____
Art Jung _____
Bob Murphy _____

EMERGENCY ROUTES

HOSPITAL: Crew will drive from site to hospital to familiarize crew with
the route before beginning work.

OTHER: _____

PERSONNEL POTENTIALLY EXPOSED TO HAZARDOUS MATERIALS

	<u>Personnel authorized to enter HWS</u>	<u>Assignment</u>
1.	<u>Michael Grasso</u>	<u>Sampling Team Manager</u>
2.	<u>Larry Buela</u>	<u>Monitoring Specialist</u>
3.	<u>Darcy Higgins (alternate)</u>	<u>Monitoring Specialist</u>
4.	<u>Don Paquette (alternate)</u>	<u>Monitoring Specialist</u>
5.	<u>Rob Foster</u>	<u>PA Writer; Possible Sampling</u>
6.	<u>Anne Sause</u>	<u>PA Writer; Possible Sampling</u>

Other personnel assigned to handle hazardous materials (decontaminate, analyze samples, etc.):

<u>Personnel</u>	<u>Assignment</u>
1.	
2.	
3.	
4.	
5.	

Site Entry Procedures: Present letter of introduction to security officer;
contact Mr. James J. Czapla, Superintendent.

Work Limitations (time of day, etc.): Daylight, normal business hours. Be
aware of heat stress.

ATTACHMENT TO HEALTH AND SAFETY PLAN

ATTACHMENT 1
KNOWN SUBSTANCES AT THE SITE

U-31 Area

Halogenated Organics	Gen. Flammable, Tol. 75 ppm (Air)
Pesticides	Gen. Highly Toxic, Tol. 0.5 mg/m ³ (Air)
Chlorides	Highly Tox, Tol. 1 ppm as chlorine (Air)
Waste Oil	Low-Mod. Toxicity

F Area

Chlorobenzenes	Flammable, Tol. 75 ppm (1,400 tons)
Dodecyl Mercaptans (Lauryl Mercaptan)	Injurious to Eyes (100 tons)
Aniline	Toxic, Allergenic, Tol. 2 ppm (Air)
Thiodan (Thiol)	Gen. Toxic and Flammable
Benzoic Acid	Mod. Toxic
Mercury	Highly Toxic, 0.01 - 0.05 mg/m ³ (Air)
Chlorotoluenes	Toxic, Irritant, Tol. 50 ppm (Air)
Chlorinated Napthalenes	Toxic, Strong Skin Irritant

C Area

Hydrochloric Acid	Highly Toxic, Strong Irritant
Sulfur Chlorides	Highly Toxic, Strong Irritant, Tol. 1 ppm (Air)
Acetone	Mod. Toxic, Highly Flammable, Tol. 750 ppm (Air)
Styrene	Combustible
Benzoyl Chloride	Toxic, Strong Irritant
Chlorobenzotrithloride	Low Toxicity
Trichloroethylene (TCE)	Toxic, Tol. 50 ppm (Air)
Sulfur	Possible Fire/Explosion Risk

D Area (Total 4,200 Tons)

Chlorotoluenes	Toxic, Narcotic in High Conc. (Meta Form) Tol. 50 ppm (Air)
Benzyl Alcohol	Mod. Toxic
Benzoic Acid	Mod. Toxic
Chlorobenzoic Acid	Mod. Toxicity
Toluene	Flammable, Toxic, Tol. 100 ppm (Air)
Organic Acids	Strong Skin/Eye Irritant
Arsenic	Highly Toxic, Known Carcinogen, Tol. 0.2 mg/m ³ (Air)
Sulfur-Containing Organics	Gen. Toxic, Irritants

(Continued)

ATTACHMENT 1 (Continued)
KNOWN SUBSTANCES AT THE SITE

M Area

Benzoyl Chloride	Toxic, Strong Irritant
Dichlorobenzoylchloride	Combustible
Chlorobenzotrichloride	Low Mod. Toxicity
Acetonitrile	Mod. Toxic, Flammable, Tol. 40 ppm (Air)
Halogenated Organics	Gen. Flammable, Tol. 75 ppm (Air)
Iron Sulfide	Low Toxicity
Perchloropentacyclodecane	

W Area

Phosphorus Pentasulfide	Toxic, Dang. Fire Risk, Ignited by Friction, Tol. 1 mg/m ³ (Air)
Stearyl Acid Phosphate	Mod. Toxic
Phosphorus Hydride	Highly Toxic, Flammable, High Fire Risk
Alkyl Acid Phosphite	Toxic
Phosphorus Pentoxide	Corrosive, Fire Risk
Zinc Phosphide	Highly Toxic by Ingestion, Can Produce Toxic Phosphine Gas
Waste Paint	Mod. Toxic

N Area (Total 11,300 Tons)

Halogenated Organics	Gen. Flammable, Tol. 75 ppm (Air)
Benzoic Acid	Mod. Toxic
Lindane Filter Cake	Highly Toxic, Tol. 0.5 mg/m ³ (Air)

EFW Plant

Possible Toxic Organics	Assume All Toxic
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